SEQUENCE LISTING

```
<110> Anastasio, Alison E.
                     Chew, Anne
                     Denton, R. Rex
                     Nandabalan, Krishnan
                     Parks, Katie E.
                     Stephens, J. Claiborne
          <120> Haplotypes of the TNFRSF1A Gene
          <130> MWH-0030US
          <140> TBA
          <141> 2001-08-31
<160> 41

<170> PatentIn Ver

</pr>

</pr>

</pr>

</pr>

</pr>

          <160> 41
          <170> PatentIn Ver. 2.1
          <220>
          <221> allele
          <222> (3409)
          <223> PS2: T OR G
          <220>
          <221> allele
          <222> (3438)
          <223> PS3: A OR G
          <220>
          <221> allele
          <222> (3603)
          <223> PS4: C OR G
          <220>
          <221> allele
          <222> (4054)
```

```
<223> PS5: A OR G
     <220>
     <221> allele
     <222> (4082)
     <223> PS6: G OR A
     <220>
     <221> allele
     <222> (11998)
     <223> PS7: C OR T
     <220>
     <221> allele
     <222> (12356)
     <223> PS8: G OR A
<222> (12397)
     <223> PS9: T OR C
    <222> (12489)
    <223> PS10: C OR T
    <220>
    <221> allele
    <222> (12653)
     <223> PS11: T OR C
    <220>
     <221> allele
    <222> (14824)
     <223> PS12: G OR A
    <220>
     <221> allele
     <222> (14990)
     <223> PS13: A OR G
    <220>
    <221> allele
    <222> (15089)
     <223> PS14: C OR T
```

<220>

```
<221> allele
<222> (15093)
<223> PS15: C OR T
<220>
<221> allele
<222> (15529)
<223> PS16: T OR C
<220>
<221> allele
<222> (15932)
<223> PS17: G OR A
<220>
<221> allele
<222> (16165)
<223> PS18: G OR A
<400> 1
eggacatage cagatgtatt acggatgact geagteaget ecceeagget ectgettete 60
ttgcctcctg cttttttccc cagagetgte tecttatete cattcaettg tetatgggtt 120
actectggac cotggggtta ggagttggaa tcaggctgtt agcgataaaa gggttcaagt 180
tgactcattt teettateag gettagtagt tgaagtgaet tgetgagett cataattett 240
agagaacetg ccatgaacce ageteeettt ctatgactea ecetgeeace etgtgacaca 300
tagagtetga atggcaggte tggggetaga acceaegtea tetggaettg gagtecagtg 360
accettiggg ttaagcatgt gigtgtgtgt gigtgtgcca igatgcggga ggaaggtccc 420
tgctctctgt agctgttttc ttcatccttt gctctacaag ccctaacagc cgattctgtc 480
atcoctagte tgcccctctc etgtttctcc atctcctctg accatgattt ttttctgtcc 540
etggagggat gatggtetea tteteacete etceacgaaa egtgttaget ttteatatte 600
ctagatccac tcacttctca tcatcttttt ttttaaacaa aattttattg aaaaatgtaa 660
tatgacgtgt caaagttgta aagttattga gtaaataagc atgtatccta aatattgaaa 720
aatattetee ttttgtacca ggetatgtgt caeggetttg gegetttgca cagactatta 780
gaaatacctt ataacattaa aaataggaca ttgaggccgg gcgtggtggc tcatgcctgt 840
aatcccagca ctttgggagg ccagggtggg tggatcacct gaagtcagga gtttgagacc 900
agectogeta acaeggtgaa acceegtete tactaaatac aaaaaattag cegggcatga 960
tggcacatgc ctataatcct agctactcgg gaggctgagg caggagaatt gcttgaatcc 1020
gggagtcaga ggttgcagtg agccgagatt gtgccactgc acttcagcct gggcaacaag 1080
aqtqaaactc tatcaaaaaa aaaaataqqa cattqaaqtt qqtttctttt tttqatacag 1140
aqtetegete tqteacccaq qetqqaqtqc actqqcaqga teteggetea etgcaaccte 1200
tgcctcctgg gttcaagcaa ttctcctgcc tcagcctcct gagtagctgg gattacaggc 1260
acgcgccacc acgcctggct aattttgtat atttagtaga gacagggttt caccatgttg 1320
gtcaggttgg tctcgaactc ctgaccttgt gatccgccca cctcagcctc ccaaagtgct 1380
gggattgcag gcgtgagcca ccgcactctg cttttttttt ttttttttgc cgccctctca 1440
cataccatac teccetquat caettateet tetqaaqttq ttattaatea ttaatacaac 1500
tagctgggca tagtggtgtg cgatggtagt cttagccact cggaaggctg atgtgggagg 1560
ctagcttgag qccagtagtt ctaggttagg tgagctatga ttgcaccatt qcactttagc 1620
ctgggtgaga gcaagctcct gtttcaaaaa aaaaattaat tgctaccact tactaaatgc 1680
```

```
ttaatatatg gcaaacactt gccaaacact ttatatgett gatttaagca tcaagctage 1740
 totgtgaagg gtaccagcag gtttcccatt ttttagatga gcagaccgag gttcttctcg 1800
 ctgcttcata ctggaaactt gcacttgatt ctgaggetec tgcttcttca agaacactgc 1860
 tttgggttcg cttctcctgt ccctggggtc tccctttgtg atggtggtga gctgcttcct 1920
· ttctgaatcc agcttcaacc ctacagttct ccagaagctg gacgatgggg tggagtaaag 1980
 tcagetceee cegeagtgag ggacactgaa getecattet catetgegga tcacagaggg 2040
 gaagccagga agagccaggg gacggtggac ttggggctgg gaggtcatct cagagggata 2100
 aggggtgagg agctctggtt tcaagttcca aagccctagg acctccctct tctctgtctg 2160
 cctgcatttc tagcagcctc agcagctgca ggcccttggg cggggctgga tgtagggaag 2220
 gtcattgtac caagaagata gttgggtaaa tgtggtacct ttgttgtagg attctcttgg 2280
 gagatgtetg catcaatgag gatggcataa agtaaccaga gtcaggatgt ggggtetgac 2340
 teagtgacag aaaaagtgge agtgtgtete teatageeaa aggggeeett ggaceggeag 2400
 tegggagtet ggggttetet gttggetetg ceteetggea cattgggttt etggacetea 2460
 gttttctcct ctataaaacc gggcagttgg gtgggcacgg tggctcacac ctgtaatcct 2520
 agcactttag gaggetgagg tgggcagatc atttgggccc aggagttcaa gacctgcctg 2580
 tgtaacatgg tgagaccctg tctctacaaa aaatacaaaa attacccagg cgtggtggta 2640
 tgcacctata gtcccagctg cttgggaggc tgaggtggga ggattacttg aacctgggag 2700
 gtcgaggctg cagtgagctg cgatggtacc actgcactcc agcctgggaa acggagcgga 2760
 ccctcaaaac aaaaacaaaa atgaaaaaca agcaaacgaa gaaataaaaa aacctagggg 2820
 gttgtagtcg atgatctgta aggtgagtta taattgatgt attggaatat ttaggaaaag 2880
 ggcactggga atatgctagg aacacctgat ggaggtatet ttatttccac ggcagetteg 2940
 tggatacgtc tcattgattc tcatggcatc actttcccca tgtaggtggg cagacattgt 3000
 tacccctgtt taataaacaa ggaaccaaca gaggcttagg agaggagttg cctgatgtcg 3060
 catgattggt ggcagagcca ggatcaacag tggggcaggg tkgggggacc tggccaggca 3120
 gagactggat gagacetggg gtgaggaatg gcaggcaccc agtcagggca gaaaacgagg 3180
gttgggactt actttgagtt ttggattgga tcagtaaatt cccaagaaag agggagacta 3240
 ggaggetagt gaagaactet ggagtaaagg ggaggattac taagggacat ggagtaceta 3300
 toatgtgtog gacgettate tatatetete ceatetgaac aaateettac aggaaceeca 3360
 ggagacaggt tatctccact ctgcaaattg gaaaacagat ccagacagkt tcagttatgt 3420
 gtctgagaag ttcatttrtg tgtccaagac acattcttag ctaaaaagct aagcattctg 3480
 aattggaacc cagagaattt gactcccaga ctctggatct tttcactgct gtgatccatc 3540
 tgggaaaggc tagtgatgtg ggcaaggggc ttattgcccc ttggtgtttg gttgggagtg 3600
 gtsggattgg tgggttgggg gcacaaggca gccagatctg ggactcctgt gcttgtgact 3660
 ggactacaaa gagttaaaga acgttgggcc testeeteec gesteetgtg gesteetest 3720
 ccagetette etgteeeget gttgeaacae tgeeteacte tteeeeteee acettetete 3780
occidentete tgetttaatt tieteagaat teteiggaet gaggeteeag tietggeett 3840
 tggggttcaa gatcactggg accaggccgt gatctctatg cccgagtctc aaccctcaac 3900
 tgtcacccca aggcacttgg gacgtcctgg acagaccgag tecegggaag ceccageaet 3960
 geogetyeea cactgeeety ageocaaaty gygyaytyay aggecatage tytetyyeat 4020
gggcctctcc accgtgcctg acctgctgct gccnctggtg agaccaggga caaagggaag 4080
 artgggetgg tgggegagge acetteegge tggegtggge ceteteeggg agggggeega 4140
geotetectg coegggeetg gteetggege cageoteagg cotgoaggte ctaaceteag 4200
ccactgccag tgtggggttc cccattcatc cgccttttgg agtaggggct gcgctgaggc 4260
 aggggaatgg gagaagtttg aaagggagag agtaaaagga agccctggcc cctgacagcg 4320
gtggaagttt gtgggcggcc aagggaatgt gggcaggaga taggcccagg gtggggcaga 4380
tttggcgggg aaaagaaggg agtgggagta ggaagattag tgctcgggga gtccagacgg 4440
ttetgaatte tgteeeteeg gteagetgge tggeetggag ggtgttggge egtggggagg 4500
cgaggetgee tgtggaactt ggtggagcac accetgtagg geaggatttt ggeggetggt 4560
```

```
gaagtggggg agtgagttga ggagtgggga tgggctggtg tggtgggttt gggatgctca 4620
tggtgggagg tatttgagaa tgggctggga cactggatgg ggcagggcaa cccagtggac 4680
agtgtcccca gtgccctggc caagccccgg cctctcacct ggggacattc tttacccttt 4740
tgcctgctgc taggcaggta gccgctgtgg gactgagcct tcccagggag ctagtcctac 4800
occcaectgg teagtgteec tgggeetgte etccagette cecteecege tgetteteac 4860
agacctaaac aacaatccct tggtttctta ttctacagtt cagtttgggg aagttggtag 4920
aaagttgttt togtoactgg aaaatgtooc tttototggo otcagoottg tttoaatgta 4980
teettgateg teeteeacgt ettggteegg gaateateet gtteagatgt eetgggeeca 5040
totagtcagg cagattttcc ctgccctgcc cggcctctga aggctgcgcc tacctcccct 5100
ctctttagtg ccttatactc ttcctctcct accattcctt tcttccagca atctccccag 5160
actotoctca gacttotcag agoctotttt tttgaaatot tttotogota atootootto 5220
coctectete tgeteegete tggteeegge cocaggteee caggeageae gtetetggte 5280
agggteteae tettettett etgeeteete etgeeteett agteeeaeee getetteeet 5340
tetteccaet gteetteece caeggtetee ceaecageca getgeeetga cateetgett 5400
ctgttttctg tttgggggcg gcccctggct ccctcacata cctcctgcat gaacaagagc 5460
agettatata acctaacett ccatgeette gtttetttat etecaaaatg ggtgteacag 5520
tettgacete atactgttgt tttgaagatt gaatagactg atacatgtta agtgttcatt 5580
tgatttatta agtgtgcgct ctgggctaga cactgtgata ggtgctggga ttacagcaga 5640
gaacaaaatc cctgcccaca gctttgacag tccatcaggg gaataggttg tagcaaatag 5700
aaagcactca ataaagtttt tatattgctg tgactagtag taattactgg gtggctacct 5760
gtgttgggaa aacagaggt aaaggtagcc tgaacaggta aagggaagtg cctgcgtcct 5820
ggggtgette ageccaggtg ggattatgte tectaaggga cagaageetg geetggaget 5880
ggaggaaagg gaaaacaaag ggaatgcaac atccttctga atttctcacc attcagtggg 5940
gagagagaga gagagaagtg gggtagggga gtagggaaga atgatacagg agagactgtg 6060
gcaaagcaaa caggattttg ctgctctcaa agagcttaca gcctagtaac caagatggct 6120
tacagtgaaa aatgatttca gagcaatccc gaggaaaata tccacaaatg cattgtgatg 6180
tggtgtcctg gagcaccagt tgggaggagg aggaactggg gaaggaggtg agccttagtc 6240
cactgeettt eettgettag eaggteteag eteetgeget eageteeaga aaatteagga 6300
getteeccae getgetteag tgteetteae tgtgeaactg cageacteec tgtatagate 6360
tcagtgccta caactgactg tctttgactc aagtgagagc tcttgagagc acgagctgtg 6420
tattatccac ctcagcatcc ctagcaccca tacgggacct gtcacattaa ctgtgcccct 6480
taactatttg ctgaaggaat taaggaacaa gagatgtgtc agatgggatg gcggagggaa 6540
agcctcatag aaaagtggat gtggagetga catctgaagt cactgcctgt cagggtaget 6600
ataaaggagg gaagcagagt tggatactga tgtgaggaag aggagaggaa tggagagatg 6660
ggattttgtg ttgatgggca gggtggcagg aagccagaca cettggttcg ggagtggaaa 6720
aaccatgttg agaaacacta agaaatgtga atgggagaat tagagggagt gggggagagg 6780
atggaggaag agtgttgaat atggttccag gtggaggaat tcattcattc gtttattcag 6840
aagctgttet eetagggeac attetgtgee eagactgtga ttagaagtga ggtgaggeat 6900
ctcagatggg tgctgtggtt catgcctgta attccagcac ttcaggaggc cgaggtgtgt 6960
ggattgcttg agtccaggag ttcgagacca gcctgggcaa cacagcaaaa ccctgtctct 7020
acaaaaaata caaagattag eggggcatgg tggggegtge ttgtcatccc agetattegg 7080
gagactgagc tegggaggac ggettgggec caggaggtgg aggttgtagt gagecetgac 7140
cacaccacta cattocgtcc tggtggtgaa ggttgcagtg agctatgatt gtgccactgc 7200
ggcatetgtg gaagtettea gateatttee atgaecatgg aaatgetgtt tggageeagg 7320
ccctggagat ggagaggaag gttcacacac ttgtgcgtgc aagttaaagc ctgaatgaag 7380
atttaaaaag tgtgtaggac ggatgggagc aggagagagg ctagaagaca cttgcaataa 7440
```

```
cccaggtgtg aggcaaccca ggaatgcgga gaggaccgag agatcacagg gggaggcctc 7500
gcaagatgaa ctgacacatg ggatggcggc agggataggg atggggccct ggggagagag 7560
cgtggcaagt tctcagcatt cgtccgggaa gtcgatggtg tgtcatttgt ctaggtgagg 7620
agatggatga attccgtctg gggcatgtta agggtcaggg aaatggtcat gtggaagggt 7680
gegectacea agetggagga gaggtgetge aacttettte tgeetttgta teatteagae 7740
acactgtgtt cactcatcag tggttctcaa aaggagagga gcacaccaga ctcttaagta 7800
agggtgtgtg tgcttgtgtg tggggaggtg gggggatggt ctgaaaactc tcccceggag 7860
ataaatatat tootaccagg ggtgctgtct cotcacctcc ctctttggga atcactggct 7920
totactagag tggaagacag atgtatcatt agatcgatca gttgatccat atttatctgc 7980
teccagtetg gaggtetggt tetgggaget gagaggaeae eaggggagga taagacaett 8040
tetgaceaag acattttttg ateteteate ttataaggtt egtggteaet ttggggagat 8100
catatotgto accoaacata accatattat gataagagoo aaaagtagat agggtoagtt 8160
cacgtgcttc gagttcacag ggactatggg tctaaggagc cggggtggag gaaacagaca 8220
togtcaatgg tggcttcacg ggagggagat gggatctcaa ctgggccctt ggaggagaag 8280
etgecacgae etcecccaae acettgacat taaatgaaca gacacatgaa tgagqqqqaa 8340
aggaagacta attgggtccc tgcaaggtgg ctggatcggg gtcagaccac aaggccgatc 8400
teagegtege etceceaete tgeagececa geacaggaag teacaettta aageeteete 8460
tggcggaaat tgtgggggag ttggagggt gttgggccac cccctcaact gtctctccac 8520
aggeacecea getteetgee ettetgetee aggetggagt etgggeetaa agageteaee 8580
teetgtttet eetgttttge tteatttaeg caactgetga ggaetggget tactggggee 8640
agctggtgcc agcagtggtg cccagtggtg gggagtctga gggccctggc tcctagggat 8700
cagagaggc tgacctggag cattetgggg gccaggggaa gcctaggaag cagggetggt 8760
tettecatee ggeateeett ettgeetget eeetegttee tggaagtggg tgtteaggge 8820
tctggaggct ttcctgtatt gccagtgggc ttggggaggg tctgtggaga ctcagaactg 8880
geettgttte etaaggattg tetggggace ceaqqqagge ecceaaacee ageacaactg 8940
gtcagaacca gccaggctgt gggaatgcgg tgaacccagg gtgggaggqc agccttgqct 9000
tgcttcctgc tgggactggg gagtgttggg ggatggagtg agagctcacg gaatgggttt 9060
agetgttgga gaettgttga aetgggagga ggagetgggg eggggeetea getaaaggee 9120
gctgagggc taggaggagc caagtggccc tcagggaagg gagggcacag acctgatggg 9180
cggaagccag ggtcgaggga gacttccctt cgggatggaa tggggagagg gaggcatttc 9240
ceggaacatg tgggccaagt gggacaaggg tctgtggcct ggctctttgc atggggaggg 9300
gatggatggg ggttgagtgg ggatgggaag gagggacttg gccataggaa gaagggatta 9360
gatggagtcc cacttgcatg caggctggtg ccttctgcct ttctgctgac tcatgaccct 9420
tgaggagetg gggaagetge tagtteeete teeeeteeet aggteteeet eestetggee 9480
tgagtcactg gggcggagtt gctgggaaaa gatttccctt tcccggatct gacttaaccc 9540
ccagagtgct ggaaagagaa gggaacacgt ggcctgagaa agcctctctc cctccctccc 9600
tocagggagg ctcatccccc actggccaga ggtccctgaa aagctccctt taaggctgtc 9660
tggggctggc gtcccccagt tcttcatcat gactctgcct caagccccct ggatgggatt 9720
caaagtacca gtgaccttag gtgctccagt ggcttcttcg gggaaaggaa ccacactttc 9780
aggactggga agttcttccc atcaccaccc caaacccttc ctgttgccct ggaagcccca 9840
gtcctgttct cagcagaggt ggcacggtgt tggctggtgc gggcagggga aggttgttgt 9900
cctctgagca ggggcacacg cctccacctg cgggggctgc tgttgtgttt ctgtgtgtgg 9960
cttcccctgt ttgcggctga ggcttgaact tccgggcctg cacagcttac agctgcagcg 10020
teteceegtg getgaeteag ggtgaetgge etectgetee gaaatgtgga gttggtgagg 10080
ctgggtggct gtgggctgcc tgaccctcct tecetgecet agggtttctg tgatctggtg 10140
agtcagttgc tececagtgt ttaacagaca ttgaggacac cetettatet ttacacaaag 10200
tgtctcttat agtagaaaaa aaaaatgaag cccagggaaa accagaaatg aagctggcag 10260
agatcaaagt ccaagttaga gctaaatatt cactcctggc tttgctttcc tqqcactqat 10320
```

```
geoggaacag gacaageeat ttagetgetg tggggttgge etgagaetge aaageacace 10380
ttccagaatg ccatggtgtg cagggggttc caggactece cagcacgece tcagetetga 10440
cotgacagto atocaagotg ggtogotago ottggcoago totatttgeo tatgtootgo 10500
acacctttgc ccactcctgc ccccgtctca actttgtccc ccgtctaccc atgcaggatc 10560
cccaaccttt ccctttact ctcctcccca tttgtccttg ccaaccccgg gtgtttgtaa 10620
attitgaggt ggaggggatg ggccagggaa tgtgagggcg gaggcagatt gaggtttgat 10680
acaaacatgt aaataaactt ccttcttctg tccacteecc aggagtggtg ctcacgggaa 10740
catcactogo coccacogoo agotgacttt ttoagaaago ttttoatggt gtaacatatt 10800
cctgggatgt gcatagatcc tcattgttta cctctgtgaa tgttcgcaaa gcgatcacac 10860
ggtgaaccca gcacccagat ggagaaacac cgccccaatc tttagggctg cttgttggaa 10920
gaaggggcca tcactgaagt aacctgccaa ttcccaatca aaaacacatc ctttcaacat 10980
ctgccctgtg tccagcactg ttagctgctg tgggggattt cacagtaagg ataaaataca 11040
gggetgggct cacgeetgta atectageae tttgggaage caaggtggga ggateaettg 11100
agcccaggat tttgagacca gtctgagcaa cgtaacaaga ccctgcctct actaaaaata 11160
aaaaaaaatt agetgggcat ggtggttcac ggeegtagte ceagetatte aggaggetaa 11220
ggtgggagga etgettgage gtgggtggtg gagggtgcag tgattgcatc actgcactcc 11280
cctactagct ttgagttgag ggaacaaaaa tgaacacaca ggacaactag agaacaatta 11400
agcatcagat tgtatggccc caactgtcta agtttcaagg aagaactcta aacttagtga 11460
gtggcgtggc ctgggcggaa tgtttcactg aggaaggact tgagccaggg aagttttaga 11520
totgotacco ctaagettee cateceteec tetettgatg gtgteteete tatetgatte 11580
ttccccaggt gctcctggag ctgttggtgg gaatataccc ctcaggggtt attggactgg 11640
teceteacet aggggacagg gagaagagag atagtgtgtg teeecaagga aaatatatee 11700
acceteaaaa taattegatt tgetgtacca agtgeeacaa aggtagggge aagtggaaac 11760
ggtgaatgcc ctcaggtctg gggtgctgct tetttetetg ettettecag ttgttettee 11820
ctaactttgc tgteteteet gggetgggat ttteteeete eeteetete tagagaette 11880
agggaatcgg ccctggctgt tgtccctagc atggggctcc ttccttgtgt tctcacccgc 11940
agcetaacte tgeggeecea tteacaggaa cetaettgta caatgaetgt eeaggeeygg 12000
ggcaggatac ggactgcagg gagtgtgaga gcggctcctt caccgcttca gaaaaccacc 12060
tcagacactg ceteagetge tecaaatgee gaaagggtga gtgtgcacag geaggagagt 12120
caggogggtc ttgagtggtg tgtgggtgcc tgtctatgtg caggetggtg ggtgtgggca 12180
ggaaggtgtg tgttttggtg ggacactgca tggatgtgag tgtgtattac agagacacac 12240
acttaggggt atgtcaggaa ggggatgcag ggacaggagg atgcaggact cataccccat 12300
cttctcccct caccagaaat gggtcaggtg gagatctctt cttgcacagt ggaccrggac 12360
accgtgtgtg gctgcaggaa gaaccagtac cggcatyatt ggagtgaaaa ccttttccag 12420
tgettcaatt geageetetg ceteaatggg accgtgeace teteetgtga gegeagetet 12480
cetgaggeya agecetetee ceaccecagg ggttggeece ttecceatge ggtggeactt 12540
cettteette ecceteetgt attetgtggg tetgacaace aacteetete tggeegeece 12600
caccetgtee etegteactt cetetgteet gtggggtggg ggtgcaggeg etneteettt 12660
agetgtgccg cacttetece tacaggccag gagaaacaga acacegtgtg cacetgccat 12720
gcaggtttct ttctaagaga aaacgagtgt gtctcctgta gtaagtgagt atctctgaga 12780
gctgctgggc actggatggt ggcatgggtt gggacgggtg actggtggga accattagct 12840
gggcaacaga tgccaggatg ccccagagtg ctcagggtcc tactggctga gtaggagaca 12900
cttcgttaag acaccaggca gtccttcccc ttgctcttca aatctgaaga agtctttgag 12960
gatggaagat catgccccaa gggctggcag cccttccaac tcagatatgt agattcttgg 13020
atctacgata getcattggt tctaggacat acactettat agetctgaaa tcaaacetee 13080
tataactggt gactcatcat ggttgaattg gcagetetgt ttgcgtetgg gtagtaatgt 13140
aaagaaaagt geettttatt ettgatggeg tettaggttt gatgeaatat ggtattteet 13200
```

```
cattagteac tgtecaggee teettactee tggetecaca gaggetgtte ttgteactea 13260
cttgcaaaga ataaactctg agggctctca gagtttgaac cccagcatag ccacttactg 13320
gotatgtgac gttgggcaag tttcttaaca tctctgagcc tgacttttct tttggtgttt 13380
ttttttttt tttttttt agacagggtt tcactctgtc acccaggetg gagtgcagtg 13440
gtgcaaccgt ggctcagect ccacctccag ggctcaagcc atcctcttgc cttagcctcc 13500
tgagtagctg ggattagagg cacacaccac tacacccage taatgtttta etttttgtag 13560
agacagggtc ctactatatt gcccaggctg gcctcggact cctgggctca agcgatcttc 13620
cgcctcagcc tcccaaagtg ctaggattac gggcatgagc caccacgcct ggcctgggcc 13680
ttagatttct tatatttaaa gtaagcataa tgacattcat ttggtgaatt tgtgagaacc 13740
aaaaacaaag aaacaaacaa aacctacaac acgtctgaca caaaactatt tattttccat 13800
taatcttctt ttttttttt tttttttt ttgacacaga gtcctgctct gtcgcccagg 13860
ctggaatgca gtggcgcgat ctcggctcac tgcaacetet gcctcccaga ttcaagcaat 13920
tctcctgctt cagcctccca agtagctggg attacaggca cgtgccacca tgcctggcta 13980
atttttgtat ttttagtaga gatggggttt caccatcttg gtcaggctgg tctcaaactc 14040
ctggtgatcc acctgcctct gcctcccaaa gtgctgggat tacagccgtg agccactgca 14100
occagoogge ttcatetett ettgaaatea ettttatace attetatgtg gtteteacea 14160
tgagettgag tggtgggeta aagtgeetet eeetgettte agetteetge tgggaactca 14220
ctctctcaag ttccttccag caccaccca tagagttccc atcactccac actgtccagt 14280
gacaactccc aacatggaag atctgctagt tctacagggt gctctctggc tgccccagta 14340
acatgtgttt ttaaattttt cacatgcatg tttgaccccg actccccgaa gtcaggtact 14400
gtaactagca gtgtcattta agaaaaagcc ctttaacctc tctttgccaa aggattctta 14460
tcagcaaaac agtgatgaaa caacaateec ataacagcta getggetacc ttctcaagca 14520
cttattaaat gaggcataat gattttgctt aatoctcaat cctgagaggt gggcgatccc 14580
tgtggtgatg aggaaaccga ggcttggggg ttaatggctt gcctagattc acactgctag 14640
ccaaggaatg aactggaatt tacaccctga ccctgactgc ttttcacatt ttctacacag 14700
ccttttcaag atccctgcca attctaaaat taaatgattc tatgattaac tgtgtttcat 14760
tettetgeat cagtteecaa aacaaattat atcaagagac agcaaaaata tttgtaaaga 14820
aagratgtee aacaatetgt gtggttgttt ttetgtgtte etceaatggt agggeetetg 14880
ttcaccagtg ccgtctcttc ttttagctgt aagaaaagce tggagtgcac gaagttgtgc 14940
ctaccccaga ttgagaatgt taagggcact gaggactcag gtgaggagan gtgacctggt 15000
geocatgete acetgecete tecetettet tgececcace egtecateca teceacecat 15060
ccatctatec etgeggeece cetetgeeyg etyetetgae caacacetge tttgtetgea 15120
ggcaccacag tgctgttgcc cctggtcatt ttctttggtc tttgcctttt atccctcctc 15180
ttcattggtt taatgtatcg ctaccaacgg tggaagtcca agctctactc cattggtgag 15240
tgggggcttt gggagggaga gggagctggt gggggtgagg gaggacatgg gtgggtgcga 15300
tggacatgtg tggagggagg tgaggagtgt cccctcagtt cataccgctg gggactctgg 15360
gcagaaggtg gccctggatg gctggggaga tgtcgagctg catcagtagc tctctcgtcc 15420
ctggggccac ataggccctg aggcatgtca ccacaagtcc ccactgccag ctgagtccag 15480
ggtgccaggg ctgagagagg aagtgaaatt tatgatgett tetteettyt teeteagttt 15540
gtgggaaatc gacacctgaa aaagaggtga gatgaaatga gagagttact cccaaatgtc 15600
cotgaccatt cottataatt gootaatgot cagatoccct ggaatcatcc ttcactttcc 15660
gggggctcgc ctcattccct ctaagtccca accccacgt agaataaaga gggccggggc 15720
tggttttcgc tgccgcacta atgtgcgcca ccttctctct ttcaggggga gcttgaagga 15780
actactacta ageccetgge eccaaaceca agetteagte ceaetecagg etteaecece 15840
accetggget teagteeegt geceagttee acetteacet ceageteeac etataccece 15900
ggtgactgtc ccaactttgc ggctccccgc aragaggtgg caccacccta tcagggggct 15960
gaccccatcc ttgcgacage cetegeetee gaccccatce ceaaccccct tcagaagtgg 16020
gaggacageg eccaeaagee acagageeta gacagtgagt ttetecegeg getggagaeg 16080
```

```
aggaggetgg gggagggeg ggggagegeg ggaggegete ccagagggga ccaegagagg 16140
eggagggege gggatgeggg geggrgeetg gggttgeege cegaggetea eeggeeegeg 16200
teccegeage tgatgacece gegacgetgt acgeegtggt ggagaacgtg ceceegttge 16260
getggaagga attegtgegg egeetaggge tgagegacea egagategat eggetggage 16320
tgcagaacgg gcgctgcctg cgcgaggcgc aatacagcat gctggcgacc tggaggcggc 16380
gcacgccgcg gcgcgaggcc acgctggagc tgctgggacg cgtgctccgc gacatggacc 16440
tgctgggctg cctggaggac atcgaggagg cgctttgegg ccccgccgcc ctcccgcccg 16500
egeccagtet teteagatga ggetgegece etgegggeag etetaaggae egteetgega 16560
gategeette caaceecact tttttetgga aaggagggt cetgeagggg caageaggag 16620
ctagcagccg cctacttggt gctaacccct cgatgtacat agcttttctc agctgcctgc 16680
gegeegeega cagteagege tgtgegegeg gagagaggtg egeegtggge teaagageet 16740
gagtgggtgg tttgcgagga tgagggacgc tatgcctcat gcccgttttg ggtgtcctca 16800
ccagcaagge tgctcggggg cccctggttc gtccctgagc ctttttcaca gtgcataagc 16860
agtttttttt gtttttgttt tgttttgttt tgtttttaaa tcaatcatgt tacactaata 16920
gaaacttggc actectgtgc cetetgeetg gacaagcaca tagcaagetg aactgteeta 16980
aggcaggggc gagcacggaa caatggggcc ttcagctgga gctgtggact tttgtacata 17040
cactaaaatt ctgaagttaa agctctgctc ttggagacag tggtctgtcg ggatgggagg 17100
tgggggcaga ggcccagatc ctgaggggtg agatgggaaa agccctgcac tagggccagg 17160
tageceatea ecateaegee aagtgacaga ggagtageag gttettgtte tgaacaeegt 17220
catctgttgc ccaagctgga gtgcgctcac tgcagcctcc aaccettggg ctcatggggt 17280
cetecegeet cageeteegg acacaggeae accaccaeae etgggtaatt tttaaaattt 17340
ttttttgtaa agacagggtt tccctatatt gcccaggctg gtctggaact cctgggctca 17400
agggatecte ecaceteage eteccaaagt getgggatta caggeageca tgeccageca 17460
gggcagtcat ttttatgcac aactttctgt ggggctcagg tgcacctatg atacataaat 17520
ttacagttct tgatccccaa acagagcagg aggcagggtg cctgggccag gcttcctttg 17580
ggaaatgtgg teettgaggt agagteacag atgeeggagg gtgaecagea etactgggga 17640
gagatotoot etgggagaga tgcatgecaa aggteetetg catteeteat acctetetga 17700
aaagacagga gggggtgtta ggcgacattc agtggcaacg ggtgagggtc aggtgaagag 17760
tgaggcggag agecetteet geeteageee etgtteetge tttgeeetet ttetatacta 17820
caccccacca ccatacagac atccccgtct geoccctccc aggccagctt ccctccagca 17880
cttacgatgc ggacagaggg gtgtccagct gaatgatgtg gggcccccgc atcctctgca 17940
gctgggcccg agtcagette cgtggcctgc tgtcccgggg ctcctcggcc ccctcaatce 18000
tttggetgge eageteetee eggatetete tgageatgte etcageeege attgggegea 18060
gggatgtgtg gccagctttc aggaacagag gcccctcttc ttcctcctcc cctgaggact 18120
cccaggggct ttccccggca gagtcagcat gggttgggga ggagggaagc tggccccgaa 18180
geogggeeet gtggagtgtt tecaecacca catteeeteg eteggaggee ceatettett 18240
cctcagacca ggttggtggg tcttcctggg gaagactgcc tccttttagg attccttccg 18300
gcagttcggg ggcgcttcgg cgttgaggag cttgggggtc gggagggtgg ggacgcagag 18360
ggatgtcccg gagttccagg gtggagaagg tgaggcgagg gtcccgccga agggctcttt 18420
ggcgtagacg gctcagtggg gagcgggacc ccgtgggggt gcctgggatc aaagtgccgt 18480
agccagagtc tgaggtatca tctggcacaa ggggagcatc ttcatctgtg tcttctgtca 18540
ccaccaggtg ggggataatg gtcgagaact caggagtcct acagttaatg gcaaagagtc 18600
agatgcgtag gggtcaagtt caagtccagg gagtttccct tgatcactac atccagaaat 18660
ggcccctcct ccaaacttat titggtatca tctttccatc gcactgtgat tgtttttctc 18720
atctggctgg ctagatttta agctcctaag agagtacggg ctgcctctat actgttttat 18780
ccatagcatc tggtccagga tcttgtatcg agtgggtagt caggtttttg ctgagtggtt 18840
cctgaactta cctgatatta tcctcaatga tcgattcttc ttttctcctt aagctgctgc 18900
caageagtgg tgetateeta gacgaacete acaeteeeg gggatttgge agetetaata 18960
```

```
ttctgcagat ccacacctac cttcactctc gagettgctc ctctcacagt gctcctgtgt 19020
gactctaggc aggetaactc tgtaggetgt ctgtgcccta tcccccacct ccaacccaac 19080
acggctggta ccaaccttcc gacccaacac agctggtacc gagcttccct accctgccct 19140
acgcctgcgt tectetatet atteccaatt ceaceaaaaa tgtgcagtaa tgccatttet 19200
cagoettatg geteceteet cetgeteggg gagacettgt agteegtgtg ageettacet 19260
cccctctgcg ctgctctgag agccctccag ggaaggcgtg gagggcctgg tgctggggga 19320
ctccctgtcc tggtcccgat agagggtcag gagctccctc ttctgttgaa catactcctc 19380
tgccttcagc ttctgtaggg cggcctggga caggacactt tcgttattaa gagctctcat 19440
ttattgagca cttgctgttt gccaggcacc ctgctaagtg cgttacatat attaccttat 19500
tttattttat tattattatt attttttgag actgagtett getetgteac ceagactaga 19560
gtgcagtgcc acaatcttgg ctcactgcaa cctccacctc ctgggttcaa gcgattctcc 19620
tgeetcagee teettagtag etgggattae aggegeeege caacgtgeee ggetaatttt 19680
tgtattttta gtagagatgg ggtttcacca tcttggccag gctggtctca aactcctgac 19740
cttgtgatcc acccccttg gcctcccaaa gtgctggaat tagacgtgta agccaccgtg 19800
cccggcctac attaccttat ttaatcttta caaaaacccc atgaaccaga tatttttacc 19860
ccaccttact actgagacat ggagactcta aggttaagta actgtctgag ggggtacttc 19920
ttaccataag aaagtggggt ggtgccggga tttggtggca ccaaactctg gagctagtgt 19980
tgggggtgag tggggtgaac agaatggccc ttttcctacc tgtacaggtc ttcctgcttc 20040
tcatgtccca ttggcagacc tgttatcagg tcttccccct ccttcaggaa gccctccctg 20100
gttggtggtg atggtagaat aagtgttctg aattggtact ggttgctcct tcaagagcat 20160
ccctetecta ccacetggge etetgecetg aagetgggag gagcaggagg gcagaacgtg 20220
ggcagaggtg ggctttgtcc caggctgagg actctgctgt ccttcagagg gaggaaagtt 20280
cctagaaggc tgaggagagg acgcattata ttatctgcct tctccctccc tcagcgattt 20340
catacaggta ccatcaaaag gaaatagcgc cacctgagaa aaaattttca aagcactttt 20400
gcacatgtgg tcatttgata cacatcattg ccctgtggtg tggagaacat gaatgttagc 20460
ccattttaca gacaagaaac ctagacctag agaggtgaag tgacttqctc aaggtgcca 20519
```

<211> 1368 <212> DNA <213> Homo sapiens

<400> 2

<210> 2

atgggectet caccegtgee tgacetgetg etgececagg tgeteetgga getgttggtg 60 ggaatatace ceteagggt tattggaetg gteceteace taggggacag ggagaagaga 120 gatagtgtg gtececaagg aaatatate cacceteaaa ataattegat ttgetgtace 180 aagtgecaca aaggaaceta ettgtacaat gaetgtecag geceggggea ggatacggac 260 tgecagggat gtgagacgge etcettace geteagaaa accaceteag acacegeete 300 agetgeteca aatgecgaaa ggaaatggg caggtaggat tetettettg cacagtggac 360 cgggacaceg tgtgtggetg caggaagaac cagtacegga attattggat tgaaaacett 420 ttecagtget teaattgcag etcetecae agtgacggag teteetteet etgecaggag 480 aaacagaaca cegtgtgeac etgecatgca ggtteette tagagagaaaa cgagtgtge 540 etcetegtga actgatagga gteetteete etgecaggag 480 aaacagaaca cegtgtgaca etgecatgca ggtteette tagagagaaaa cgagttgte 540 teettegtagaa actgtaggaa accaggagg tgecacegag tgeceetage ceagattgag 600 aatgttaagg gcactgagga etcetteatt ggtttaatgt atgectacea acggttggaag 720 tecagagetet acteattgt ttgtgggaaa tegacectg aaaaagaggg ggagettgaa 780 ggaactata etcaatgeet ttgtgggaaa tegacectg aaaaagaggg ggagettgaa 780 ggaactata etcaagecet ggeceaaac caaggtetaa gtecacatec aggetteac 840

cccacctgg getteagtec egtgeceagt tecacettea ectecagete eacettace 900 eceggtgaet getecaactt tgeggetee egeagaagag tggeaceae etteagaag 1020 getgacecea tecttgagaa agceetegee teogacecea tececaacee ectecagaaa 1020 getgaggaca egegeceaaa gecacaagage etagaacetg atgacecege eacettgege egaageaat tegtgeggeg ectagggeg 1140 agcgaccacg agategateg getggagetg eagacegege egaagecae getggagetg 1200 tacagatge tggegacetg eagagecge acgeegege egaagecae etaggagetg 1260 ectgggagege tgetceegeg eagagecae egaggages 1320 etttgaggee eeqeegeet eegageetge ecagtette teagatga 13368

<210> 3 <211> 455

<212> PRT

<213> Homo sapiens

400> 3

Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Gln Val Leu Leu 1 5 10 15

Glu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro $20 \ 25 \ 30$

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys 35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys 50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp 65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu 85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val $100 \hspace{1.5cm} 105 \hspace{1.5cm} 110$

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg 115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe 130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu 145 150 155

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu

165 170 175

				200										1.0	
Asn	Glu	Cys	Val 180	Ser	Cys	Ser	Asn	Cys 185	Lys	Lys	Ser	Leu	Glu 190	Cys	Thr
Lys	Leu	Cys 195	Leu	Pro	Gln	Ile	Glu 200	Asn	Val	Lys	Gly	Thr 205	Glu	Asp	Ser
Gly	Thr 210	Thr	Val	Leu	Leu	Pro 215	Leu	Val	Ile	Phe	Phe 220	Gly	Leu	Cys	Leu
Leu 225	Ser	Leu	Leu	Phe	Ile 230	Gly	Leu	Met	Tyr	Arg 235	Tyr	Gln	Arg	Trp	Lys 240
Ser	Lys	Leu	Tyr	Ser 245	Ile	Val	Cys	Gly	Lys 250	Ser	Thr	Pro	Glu	Lys 255	Glu
Gly	Glu	Leu	Glu 260	Gly	Thr	Thr	Thr	Lys 265	Pro	Leu	Ala	Pro	Asn 270	Pro	Ser
Phe	Ser	Pro 275	Thr	Pro	Gly	Phe	Thr 280	Pro	Thr	Leu	Gly	Phe 285	Ser	Pro	Val
Pro	Ser 290	Ser	Thr	Phe	Thr	Ser 295	Ser	Ser	Thr	Tyr	Thr 300	Pro	Gly	Asp	Суз
Pro 305	Asn	Phe	Ala	Ala	Pro 310	Arg	Arg	Glu	Val	Ala 315	Pro	Pro	Tyr	Gln	Gly 320
Ala	Asp	Pro	Ile	Leu 325	Ala	Thr	Ala	Leu	Ala 330	Ser	Asp	Pro	Ile	Pro 335	Asn
Pro	Leu	Gln	Lys 340	Trp	Glu	Asp	Ser	Ala 345	His	Lys	Pro	Gln	Ser 350	Leu	Asp
Thr	Asp	Asp 355	Pro	Ala	Thr	Leu	Tyr 360	Ala	Val	Val	Glu	Asn 365	Val	Pro	Pro
Leu	Arg 370	Trp	Lys	Glu	Phe	Val 375	Arg	Arg	Leu	Gly	Leu 380	Ser	Asp	His	Glu
Ile 385	Asp	Arg	Leu	Glu	Leu 390	Gln	Asn	Gly	Arg	Cys 395	Leu	Arg	Glu	Ala	Gln 400
Tyr	Ser	Met	Leu	Ala 405	Thr	Trp	Arg	Arg	Arg 410	Thr	Pro	Arg	Arg	Glu 415	Ala

Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro 435 440 445

Pro Ala Pro Ser Leu Leu Arq 450 455

<210> 4

<211> 15

<212> DNA <213> Homo sapiens

<400> 4

gcagggtkgg gggac 15

15

<213> Homo sapiens

<400> 6 aagaaagrat gtcca 15

<210> 7 <211> 15 <212> DNA

<213> Homo sapiens

<400> 7

ctctgccygc tcctc 15

<210> 8 <211> 15

<212> DNA

<213> Homo	sapiens
<400> 8	
gcccgctyct	ctgac
<210> 9	
<211> 15	
<212> DNA	
<213> Homo	sapiens
<400> 9	
ccccgcarag	aggtg
,,	
.040: 44	
<210> 10 <211> 15	
<211> 15 <212> DNA	
<213> Homo	sapiens
	•
<400> 10	
ggggcggrgc	ctggg
<210> 11	
<211> 15	
<212> DNA	
<213> Homo	sapiens
<400> 11	
agtggggcag	aat ka
,-,,,,,,,,,,,,,	2 2 g
<210> 12	
<211> 15 <212> DNA	
<212> DNA <213> Homo	sapiens
HOMO	04920110
<400> 12	
ggccaggtcc	cccma
<210> 13	,
<211> 15	
<212> DNA	
<213> Homo	sapiens

<400> 13

<210> 19 <211> 15	
<212> DNA	
<213> Homo	sapiens
<400> 19	
ccctctgccc	actvc
,	32-
<210> 20	
<211> 15	
<212> DNA	annia
<213> Homo	sapiens
<400> 20	
gtgttggtca	gagra
<210> 21	
<211> 15 <212> DNA	
<212> DNA <213> Homo	saniere
-213/ HOHIO	Pahrang
<400> 21	
geggeteece	gcara
1010> 00	
<210> 22 <211> 15	
<211> 15 <212> DNA	
<213> Homo	sapiens
<400> 22	
tggtgccacc	tctyt
<210> 23	
<211> 25	
<212> DNA	
<213> Homo	sapiens
<400> 23	
ggatgcgggg	cggrg
<210> 24	
<210> 24 <211> 15	

TOTAL ROBERT OF

```
<213> Homo sapiens
 <400> 24
                                                             . 15
 ggcaacccca ggcyc
 <210> 25
 <211> 10
 <212> DNA
 <213> Homo sapiens
 <400> 25
                                                                   10
 ggggcagggt
 <210> 26
 <211> 10
 <212> DNA
 <213> Homo sapiens
 <400> 26
caggtccccc
                                                                   10
 <210> 27
<211> 10
 <212> DNA
 <213> Homo sapiens
  <400> 27
                                                                   10
  tgggagtggt
  <210> 28
  <211> 10
  <212> DNA
  <213> Homo sapiens
  <400> 28
  ccaccaatcc
                                                                   10
  <210> 29
  <211> 10
  <212> DNA
  <213> Homo sapiens
  <400> 29
```

gtaaagaaag	10
<210> 30 <211> 10 <212> DNA	
<213> Homo sapiens	
<400> 30	
tgttggacat	10
<210> 31	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 31	
cccctetgcc	10
<210> 32	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 32	10
tcagaggagc	10
<210> 33	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 33	
tetgeceget	10
<210> 34	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 34	10
ttggtcagag	TO

<210> 35 <211> 10 <212> DNA	
<213> Homo sapiens	
<400> 35 qctcccgca	10
gettetegea	
<210> 36	
<211> 10	
<212> DNA <213> Homo sapiens	
<400> 36	10
tgccacctct	
<210> 37	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 37	10
tgcggggcgg	10
<210> 38	
<211> 10	
<212> DNA	
<213> Homo sapiens	
<400> 38	10
aaccccaggc	
<210> 39	
<211> 18	
<212> DNA	
<213> Homo sapiens	
<400> 39	18
tgtaaaacga cggccagt	
<210> 40	
<211> 19	
<212> DNA	

```
<213> Homo sapiens
<400> 40
aggaaacagc tatgaccat
<210> 41
<211> 2160
<212> DNA
<213> Homo sapiens
<220>
<221> allele
<222> (30)
<223> PS1: G OR T
<220>
<221> allele
<222> (150)
<223> PS2: T OR G
<220>
<221> allele
<222> (270)
<223> PS3: A OR G
 <220>
 <221> allele
 <222> (390)
 <223> PS4: C OR G
 <220>
 <221> allele
 <222> (510)
 <223> PS5: A OR G
 <220>
  <221> allele
  <222> (630)
  <223> PS6 G OR A
  <220>
  <221> allele
  <222> (750)
                  C OR T
  <223> PS7
```

DIESO, NORTHO

1.5

<220> <221> allele

20

19

```
<222> (870)
    <223> PS8
                  g OR A
    <220>
    <221> allele
    <222> (990)
    <223> PS9
                   T OR C
    <220>
    <221> allele
    <222> (1110)
   <223> PS10:
                                 C OR T
   <220>
   <221> allele
    <222> (1230)
   <223> PS11: T OR C
  <220>
   <221> allele
   <222> (1350)
   <223> PS12 G OR A -
(220>
< <221> allele
   <222> (1470)
00 <222> (1470)
W <223> PS13:
                    A OR G
(220>
</
   <222> (1590)
   <223> PS 14:
                      C OR T
   <220>
   <221> allele
   <222> (1710)
   <223> PS15:
                      C OR T (
   <220>
   <221> allele
   <222> (1830)
                            T OR C
   <223> PS16:
   <220>
   <221> allele
   <222> (1950)
   <223> PS 17:
                          G OR A
```

La

```
<220>
<221> allele
<222> (2070)
<223> PS 18:
                GORA
<400> 41
cagagocagg atcaacagtg gggcagggtk gggggacctg gccaggcaga gactggatga 60
totgoaaatt qqaaaacaqa tocaqacaqk ttoaqttatq tqtotqaqaa qttoatttat 180
gttatgtgtc tgagaagttc atttatgtgk tgtgtccaag acacattctt agctaaaaag 300
ttgccccttg gtgtttggtt ggqagtqgts qgattgqtqq qttqqqqqca caaqqcaqcc 420
ctctccaccg tgcctgacct gctgctgccr ctggtgagac caqqqacaaa gggaagagtg 540
cactggtgag accagggaca aagggaagar tgggctggtg ggcgaggcac cttccggctg 660
aacctacttg tacaatgact gtccaggccy ggggcaggat acggactgca gggagtgtga 780
ggtggagate tettettgea cagtggacer ggacaccgtg tgtggetgea ggaagaacca 900
qtqqctqcaq qaaqaaccaq taccqqcaty attqqaqtqa aaaccttttc cagtqcttca 1020
ctctcctgtg agcgcagctc tcctgaggcy aagccctctc cccaccccag gggttggccc 1140
ctgtcctgtg gggtgggggt gcaggcgcty ctcctttagc tgtgccgcac ttctccctac 1260
agagacagca aaaatatttg taaagaaagr atgtccaaca atctgtgtgg ttgtttttct 1380
taagggcact gaggactcag gtgaggagar gtgacctggt gcccatgctc acctqccctc 1500
tocatotate cetgeggee cectetgeey getyetetga ceaacacetg etttgtetge 1620
totatocoty oggococcot otgocygoty ototgaccaa cacotgottt gtotgcaggo 1740
gaagtgaaat ttatgatgct ttctttctty ttcctcagtt tgtgggaaat cgacacctga 1860
tgactqtccc aactttgcgg ctccccgcar agaggtggca ccaccctatc agggggctga 1980
agaggeggag ggegegggat geggggeggr geetggggtt geegeeegag geteaeegge 2100
```

принципри принципри принципри принципри принципри принципри принципри 2160